REPORT OF CASES OF APPENDICITIS TREATED IN THE SURGICAL WARDS OF THE COOK COUNTY HOSPITAL OF ILLINOIS, DURING THE YEAR 1891.

REPORTED BY DANIEL N. EISENDRATH, M. D.

OF CHICAGO.

RESIDENT STAFF, COOK COUNTY HOSPITAL.

Case I. Acute Catarrhal Appendicitis without Tumor. C. R. Printer, aet, 31, admitted 7-7-91; discharged, 7-29-91. Catarrhal Appendicitis. No operation. Recovery. Patient's previous history negative. He had had a colic on right side of abdomen five years before.

His trouble began on July 4th with sudden severe pain in the iliac region, necessitating his going to bed. He was seen upon the same day by Dr. Van Hook and given large doses of morphine. His pain continued of a constant character, increased by pressure and movement, up to time of admission on July 7th, 1891.

Operation was advised, consultant was against it. Examination showed a well nourished, robust man. Tongue slightly coated, no appetite and constipation. There was no tumor apparent on inspection of abdomen, but on palpation there was diffuse tenderness, but most acute in the right iliac region, especially opposite a point midway between the right anterior superior spine and umbilicus. There was some dullness over this area, but no tumor could be felt. He was given morphia, gr. ¼ p. r. n., liquid diet, and bowels moved by enemata until July 11th, when he was given 1 oz. of castor oil. His temperature never rose to 100° C. Pulse 86 to 90. The local symptoms gradually decreased, and patient was discharged on July 29th, recovered.

Case II. Acute Appendicitis with Tumor. Operation; Resection of appendix; Recovery; A. H., aet., 30, Railroad Switchman. Admitted 7-29-91; discharged 10-21-91. Recovery. Patient had always been in good health until the summer of 1890, when he had a severe serous diarrhœa for several months, from September, 1890, to February, 1891. In November, 1890 he was taken with severe pain in the right inguinal region, which persisted for about ten days. He was in a hospital, and medicine given stopped both the diarrhœa and the pain. Soon after leaving the hospital the former began again and continued until February, 1891. Bowels were regular, and general health from this time until present illness began, which occurred about one week before admission, had been good; he was suddenly taken with a sense of constriction across the abdomen, and shortly after noticed severe darting, stabbing pains in the right inguinal region. This pain persisted, not getting much worse, but not diminishing until the date of admission, July 29th, when it seemed much better. Bowels quite regular.

Examination.—Patient located the point of tenderness with his finger at the centre of a line drawn from the right anterior superior spine to the umbilicus, but stated there was little pain there at the time of admission. On palpation here, some, but slight, tenderness was elicited, but a distinct tumor could be felt occupying the right iliac fossa, about the size of a duck's egg or a little larger.

On the morning of August 5th, the patient having been prepared in the usual manner, Dr. J. B. Murphy made an incision three inches long, bisecting a line from the right anterior superior spine to the umbilicus, opened the peritoneum with a scalpel, and came immediately upon adhesions between the peritoneum and omentum, which latter covered and was bound to the seat of inflammation. Stripping easily the omentum from the underlying mass, the ileo-cæcal region was brought into view; the intestines were much congested and adherent. Lying close under the cæcum and adherent to it and to the beginning of the ilium along its lower border was the appendix, congested and swollen to the size of the little finger, and about seven-eighths of an inch long. The free extremity was blind, and had the

appearance of a loss of substance from ulceration. About its base near the cæcum was a small ulcerated opening admitting a probe, and about it were a few spots of beginning suppuration, yet there was no actual pus cavity anywhere. The appendix was ligated close to its base with strong silk and cut off. The mass was then allowed to resume its former position in the abdomen. A piece of iodoform gauze was packed around the stump and carried as a drain through the incision, the extremities of which were closed with silk, and the whole wound dusted with iodoform and a large antiseptic dressing applied.

The patient's temperature on the second day after operation was 101.2° F. Pulse 84. On the third day the temperature being 102·2, pulse 124, the wound was dressed and note made on the history that there was pus about the gauze drain, which was firmly adherent and was not removed. The wound was thoroughly irrigated. The temperature ranged between 99° and 102° until the tenth day after operation, after which it only rose once to 101°, but remained about 99.4°, with pulse between 80 and 90. On August 12th the wound was again dressed and the following noted: There is considerable pus. Removed gauze with some difficulty and also all sutures, as they were infected. A ligature which was applied to a bleeding point in the omentum at the time of operation still remains attached, having by mistake neglected to cut it off, and both ends allowed to remain hanging out of the wound. No further notes are made on the history, but the patient was discharged October 24, 1891, about ten weeks after operation, fully recovered.

Case III. Acute Appendicitis With Tumor. Henry Moeller, aet. 31; German; laborer; admitted June 16, 1891, discharged August 13, 1891. Recovery.

Appendicitis. Threatened perforation into peritoneal cavity. Laparotomy. Removal of appendix and enteroliths. Recovery.

Patient was well up to thirty hours before admission on June 16, 1891, at 2 P. M. On the previous day had a bowel movement shortly after getting up, and felt well until 8 A. M., when he lifted a heavy weight and noticed a sharp colicky pain referred to the umbilical region. This did not return until 7 P. M. the same day, more severely,

and continued in moderate degree up to the time of admission. At 8 P. M. on the previous day and 1 A. M. of the next he vomited greenish and bitter material. He had a slight bowel movement upon the day of admission. He consulted Dr. Van Hook at the Post Graduate Medical School, who sent him to the hospital for operation

Examination at the time of entrance to the hospital showed patient sallow, dull and sleepy. Complained of a chilly sensation, and stated that he felt better when his legs were drawn up and adducted, as it hurt him to breathe deeply with his legs extended.

Examination of abdomen.—Percussion, even light, and superficial palpation were almost impossible on account of the extreme tenderness, especially in the right iliac region, but a small tumor could be felt there.

Operation 7 P. M., July 16, 1891, forty hours after beginning of illness. Three-inch incision parallel to Poupart's ligament midway between the umbilicus and the anterior superior spine. After incising the peritoneum the enlarged appendix could be easily felt and brought into the wound. Easily broken down adhesions had formed between the surrounding coils of intestines, the first stage in the formation of an abscess cavity. The appendix was examined, and a greenish white spot about the size of a dime seen at about its centre, directly opposite or over a somewhat firm foreign body imbedded in the lumen. The entire appendix was removed after ligation, close to the cæcum; the edges were invaginated and closed by Lembert sutures, after cleansing the stump with ninety-five per cent. carbolic acid and suturing it to the omentum, thus providing an omental covering for it. The wound in parietes was sutured. No drainage inserted. Examination of the appendix after the operation revealed the presence of two small-cherry-stone-size enteroliths, which are now in the possession of Dr. Van Hook. Several days after the operation a small amount of pus was discharged from the centre of the incision, and this was thought to be due to local infection, caused by a drop of the contents of the appendix falling on the edge of the wound. This still remained as a small sinus until July 1, 1891, when a superficial granulating surface re-

mained, but on pulling out a long piece of silk this closed up entirely, and the patient was discharged August 18th, recovered.

Case IV. Acute Appendicitis Without Tumor. Act 19, Swede. Appendicitis. Perforation. Septic Peritonitis. Laparotomy. Death fifty-two hours after operation. Patient was unable to speak English, and only the following previous history could be obtained: About one week before he began to have a severe diarrhœa, which continued up to the time of admission. About thirty-six hours before he began to vomit, and this symptom was also present when admitted.

Examination on admission showed patient was cold and clammy; features pinched and drawn; profuse perspiration; face livid; tongue heavily coated. At intervals of a few minutes he vomited a greenish material with a very fetid odor. Pulse rapid, soft and feeble. Lungs negative. Abdomen tympanitic; walls tense. Liver dullness absent. He complained, or indicated, that he had intense pain in the abdomen, especially on the right side. There was no induration in the region of the appendix, and nothing definite could be outlined on account of the tympanites.

Operation, two hours after admission, by Dr. Moorhead. Chloroform. After the usual preparations the incision for the lateral operation for appendicitis was made, but nothing definite found. An incision was then made in the median line, and, upon opening the peritoneal cavity a large amount of fluid fæcal matter escaped. The coils of intestines were markedly congested and covered with flakes of fibrinous lymph. They were carefully inspected for perforations, but, none being found, the appendix was examined and found bound down by plastic adhesions behind the cæcum, having a perforation at its centre about four millimetres in diameter. The appendix was ligated by transfixion and removed, the stump being invaginated and closed by Lembert sutures. In the interior of the appendix and on the proximal side of the perforation was a firm fæcal concretion about eight millimetres in diameter, somewhat almond-shaped, with its apex directed toward the perforation, occupying the entire lumen of the appendix, which was about the size and

length of the index finger. Both median and lateral wounds were closed by superficial and deep sutures of silk, and a glass drainage tube inserted into the lower angle of the median wound, the peritoneal cavity having previously been thoroughly flushed out with three gallons of hot (108°) sterilized water. The usual dressings were applied. The patient was removed from the table markedly improved. Four hours afterwards his temperature was 98.6°; pulse, 120. The drainage tube was aspirated every two hours, and stimulants freely given. A saline enema upon the following morning was successful. Pulse remained 116 to 120. He was able to retain ten ozs. of hot milk during the first twenty-four hours, and only had an occasional hiccough. About twenty-eight hours after the operation, during the absence of the nurse, the patient pulled out the drainage tube (through which about two ozs. of clear, non-offensive fluid had been aspirated) and got up out of bed, and when discovered was almost in a state of collapse. His pulse now rose to 160, and temperature to 101.6° axilla. He took about one pint of milk during the next twenty-four hours, and was given sulph. magnes. 2 drs. every two hours, with several successful saline enemas. Several times during the last twenty-four hours notes are made of flaky matter withdrawn by aspirating the drainage tube. Patient died at 8 P. M., October 6, fifty-two hours after operation.

Case V. Acute Appendicitis, without Tumor. F. D., porter, act. 32; admitted 8–10–91 at 2.10 P. M. Died 8–11–91 at 1 A.M. Acute Septic Peritonitis from Perforative Appendicitis. Laparotomy. Death. Had enjoyed excellent health until three days before admission, having suffered only from chronic constipation for two years. On this day he was taken with severe pain in the umbilical region, which rapidly increased in severity. Two days prior to admission he was seen by Dr. Whitwer, who gave an enema and repeated doses of salts, his bowels not having moved for several days. These were somewhat successful, but upon the following day he vomited several times. The pain still persisted with increased severity.

Examination upon admission showed a robust, well-developed negro, with face pinched and drawn, anxious expression, eyes sunken;

pulse rapid, weak and wiry, thighs flexed on abdomen. On percussion could demonstrate the presence of free fluid in the peritoneal cavity. The abdominal walls were tense and rigid; there was tenderness on pressure over all parts of the abdomen, not more severe in one region than another.

8.10 P. M. Laparotomy by Dr. J. B. Murphy. Ether. Patient's vomit was now stercoraceous; he was in a state of collapse necessitating the administration of stimulants, and also operation almost without anæsthesia. An incision was made in the median line three inches long between the umbilicus and pubes. As soon as the peritoneal cavity was opened a large quantity of sero-purulent flaky matter with fæcal odor escaped. The appendix was felt enlarged, surrounded by recent adhesions to neighboring viscera and parietes. The condition of the patient permitted only of a thorough lavage with hot sterilized water and the insertion of a large gauze drain reaching to the ileo-cæcal region. No sutures. He was quickly placed in bed and all stimulants, etc., employed. He recovered consciousness and remained mentally clear up to time of death, five hours after operation, or eighty hours after the beginning of his illness. A post-mortem examination was not permitted, but the cæcum and the appendix, which had been secretly removed shortly after death, showed the appendix enlarged to the diameter of and in length equal to the little finger. It was firmly adherent to the under surface of the cæcum, with the exception of one-half inch of the tip, which was free. At the base and also one-half inch above the apex were two ulcerated perforations. At the site of that at the base was an enterolith about the size of a cherry-stone, hard and brownish-red. There was no abscess cavity around the appendix, peritonitis having succeeded immediately upon perforation, before adhesions could be formed.

Case VI. Acute Appendicitis, with Tumor. M. K., aet. 40. U. S. Admitted 10-1-'91. Discharged 11-11-'91. Recovery.

Previous History, negative. Had always enjoyed excellent health up to beginning of the present trouble.

History of Present Illness. Two weeks before began to have pain

in the right iliac region, with constipation, persistent vomiting and a chill, compelling him to go to bed. Abdomen became tympanitic. Pain and other symptoms continued unchanged to time of admission.

On Admission. Patient pale, slightly emaciated; looked like one suffering from some acute illness. Pulse 96, small, wiry and soft. Temperature, 99.4.

Abdomen. Some tympanites; extreme tenderness on pressure, and a sense of resistance to palpation in the right iliac region, to which area patient referred the pain he had during the past two weeks. There was dullness on percussion over this area, but no redness of skin. Examination per rectum was negative. On deep palpation, in addition to the above sense of resistance, there was also one of faint fluctuation.

Operation two hours after admission by Dr. W. Van Hook. Exploring needle inserted into the fluctuating swelling revealed the presence of pus. An incision was then made through all the tissues of the parietes parallel to Poupart's ligament until the peritoneum was incised, when pus and gas, with fæculent odor, escaped, showing its connection with the intestinal canal. A drainage tube was inserted and the wound dressed every second day. The temperature after operation varied between 99.8° to 100.4°. Patient was kept on liquid diet until eighteen days after operation, when he was given light diet. No further notes were made on the history sheet of the progress of the case, but the patient was discharged November 11, 1891, recovered. The condition of the wound during this time was as follows: Drainage tube was left in for two weeks, then packed to bottom at each dressing with iodoform gauze, healing rapidly by granulation from the bottom. On the day of discharge there was only a cutaneous scar.

Case VII. Acute Appendicitis, with Tumor. O. P. P., glazier. Admitted 4-6-91. Periappendicular Abscess. Operation. Removal.

Present Illness began November 3, 1890, when he had great pain in the abdomen and in the testes; vomiting, retching and marked constipation. A week after this an abscess developed in the right

groin. This was evacuated, and discharged fæcal matter and pus for three weeks. This healed, but reopened two or three times, and when admitted on April 6, 1891, examination revealed a puckered cicatrix and a slight bulging in the right iliac region—a very narrow sinus which was not probed. The patient was prepared for operation, and an exploratory incision three inches long, made parallel to the puckered scar and nearer the median line, so that its course was parallel to Poupart's ligament and about midway between the umbilicus and right anterior superior spine. The peritoneal cavity was opened and the ileo-cæcal region examined. All the viscera of this region were found so closely adherent to each other and matted together, being walled off from the general peritoneal cavity by adhesions formed between the coils of intestines, the cæcum and the parietes, that it was deemed advisable to close the incision again. This wound healed throughout by first intention in spite of its proximity to the constantly discharging sinus. The patient was sent out, at his own request, on May 3, 1891, four weeks after the exploratory operation. He returned to the hospital on May 19, 1891, the sinus in the right iliac region still continuing to discharge a small amount of pus. A radical operation being decided upon, the patient being prepared, a large opening was made with the probe in the sinus as a guide. A large mass of granulation tissue was found lining the sinus, and from this main one numerous blind smaller sinuses led in all directions. After careful dissection and search, with free exposure of the field of operation, the vermiform appendix was found, ligated and cut off; its edges being invaginated and oversewn; two enteroliths were found in it the size of peas. A large rubber drainage tube was inserted and a counter-opening made over the crest of the ilium. All of the operation was done either extraperitoneally or in a part of the general peritoneal cavity, which had been walled off by adhesions—the latter is more probable—on account of the evidence obtained in the exploratory laparotomy performed five weeks previously.

No further notes are made until July 7, 1891, when a small sinus remained leading down into the iliac fossa at the site of operation, and posteriorly a small sinus at the site of counter-opening. He was

discharged on July 17, 1891, and returned for a few months, at intervals, to be dressed.

Case VIII. Acute Appendicitis, with Tumor. W. B. aet. 27; Engineer, U. S. Admitted 7-20-91 at 8 P. M. Discharged 9-6-91.

Appendicitis and Periappendicular Abscess resulting from the lodgment of a gelatine capsule in the appendix. Operation. Recovery.

Previous Illness. States that he had attacks of ordinary intestinal colic at intervals during the past few years, but otherwise had enjoyed perfect health up to time of

Present Illness, which began seventy-eight hours prior to admission, as follows: He was a night engineer by trade, and slept during the day. He awoke at two o'clock on the afternoon of July 17th, 1891, on account of a colicky pain in the umbilical region, which also passed up and down his abdomen. He consulted a physician, who prescribed some liquid medicine and some other to be taken in capsule form at bedtime. Of the former he took one teaspoonful and soon vomited, but the pain in the abdomen had entirely ceased. At 6 P. M. of the same day he took one of the capsules, and this he stated positively was the only one of these he had taken. He did not go to work on that evening, and was awakened upon the following (Saturday, July 18th, 1891) morning by a second and quite different variety of pain, of a constant, throbbing, cutting character, referred to the right iliac region. The other umbilical, colicky pain also returned at intervals. He did not consult a physician again until a few hours before admission, the pain having continued unchanged, necessitating his taking to bed. During this interval he had not vomited, taken scarcely any nourishment, and he had only one scanty bowel movement.

Upon admission, 8 p. m., July 20th, 1891, patient was a well-nourished man. His walk was noticed at once to be accompanied by expression of pain, and examination revealed an area about three by three inches situated chiefly in the right iliac region but extending

over into the hypogastric region, over which there was the most exquisite tenderness to the touch, a marked sense of resistance, as though one were palpating an area of the erysipelatous inflammation, with dullness on percussion and reddened condition of the skin, quite sharply limited to the above area. The patient stated that this subjective sensation of a constant pain had been entirely in this spot. Deep palpation and percussion were impossible. Tongue coated, no appetite, constipated, pulse 108, moderated and soft, temperature 102.4°.

Operation by Dr. Leonard St. John, three hours after admission, seventy-seven hours after swallowing capsule. After the usual preparations a crescentic incision with its convexity down and outwards was made over the reddened area. The subcutaneous tissue and all muscles of the abdominal wall were found densely infiltrated with serum, rendering them very firm. After cutting through the parietal peritoneum a tissue which was recognized as the omentum was found separating an underlying sausage-shaped firm tumor from the parietes. This was also incised, when a muddy, fetid pus escaped with a few bubbles of gas, showing the existence of a small abscess cavity surrounding a central somewhat cylindrical body, which was the appendix lying at the bottom of the abscess, soft, dull and greenish-white in appearance, its center showing a nodular enlargement about the size of a pea, which could be easily palpated. The appendix was then incised and an ordinary gelatine capsule of the two-grain size, containing a firm blackish substance, removed. It broke transversely at its middle and showed evidences of beginning solution. The wound was irrigated with hot sterilized water, packed with iodoform gauze, and a copious absorbent antiseptic dressing applied.

He was in excellent condition when put to bed. Five hours after operation his temperature was 101.4°, pulse 102. During the following day the foreign body which had been removed was shown to the patient, and he recognized the capsule which he had swallowed upon the preceding Friday evening. The further progress of the case is uninteresting. The wound was dressed every second day. Yellowish pus continued to be discharged for some time. The wound was

gradually closed up by granulations from the bottom, and the patient was discharged fully recovered on September 9th, having gained almost forty pounds since the operation, seven weeks previously.

Case IX. Acute Appendicitis, with Tumor. J. K., laborer, æt. 30. Appendicitis. Periappendicular Abscess. Operation. Resection of Appendix. Recovery.

Patient was admitted May 19, 1891, with a negative history as regards previous illnesses, He had enjoyed excellent general health until five weeks before admission, when he began to have pain of a sharp, lancinating character in his right side, extending from the region of the pubis to the spine, and also pain of a colicky nature referred to the umbilicus. He was constipated at the time, but did not vomit, had no appetite and was obliged to lie down at home.

Upon admission his temperature was 100° F. Pulse not recorded. Examination revealed a distinct tumor in the right iliac region, hard, situated at the outer end of Poupart's ligament, not painful to palpation. Its anterior boundary was well defined, the posterior only poorly. The mass was flat on percussion, and extended from the point mentioned to within one inch of the lower margin of the liver, where there was again tympanitic resonance. The tumor seemed to be firm and fixed, so that sarcoma or osteoma were thought of. About one week after admission the patient was prepared for operation, which was performed by Dr. Murphy, an incision being made three inches long over the tumor half way between the umbilicus and the right iliac spine. After the parietal peritoneum had been incised a large quantity of pus with fæculent odor escaped. This abscess cavity was irrigated and search made for the appendix, which was found lying free in the cavity, the walls of which were formed by the cæcum, parietal peritoneum and agglutinated coils of intestine. The appendix was drawn up into the wound and showed a perforation with ragged edges near its distal end. It was ligated as low down as possible and removed. The cavity was then thoroughly and carefully irrigated with hot sterilized water and a large rubber drainage tube inserted. No further notes are made on the history until August 6, 1891, when there was a granulating superficial wound at site of operation. He had been

working about the ward at this time for three weeks, and was discharged on August 7, 1891, fully recovered.

Case X. Acute Appendicitis, with Tumor. John W., æt. 25, plumber. Appendicitis. Periappendicular Abscess. Operation. Recovery.

Patient was admitted to medical side on August 21, 1891, and was transferred to the service of Dr. Fenger upon the next day.

He gave the following history: With the exception of what he termed "bilious attacks" he had always enjoyed excellent health up to four weeks before admission, when he had another of his so-called bilious attacks, during which he vomited, had no appetite and was very constipated. He took a cathartic, which relieved his condition until ten days before coming to the hospital, when he suddenly felt pain of a cutting, griping character in the right iliac region, which continued for five days, after which he seemed better, but was obliged to remain in bed, the pain existing in a moderate degree, accompanied by constipation, anorexia, nausea, fever (103°) slight frontal headache and enlarged spleen. He was admitted as a case of typhoid fever, and it was only after a careful examination that a correct diagnosis was made and the patient transferred to the surgical side. Examination here revealed the presence of an area immediately above and to the median side of the right anterior superior spine, which was tympanitic on percussion, but showing marked increase of resistance and extreme tenderness on even light palpation; the sense of resistance was evidently due to some deeply situated induration in the right iliac fossa, which did not pulsate and was not affected by respiration. There were no cutaneous changes. Operation was performed after careful preparation, an oblique incision three inches long being made, and all tissues of the abdominal wall and peritoneum divided, over the swelling itself. The cæcum was exposed at the upper angle of the wound, the omentum was seen adherent to a tumor at the lower angle, thus walling off the general peritoneal cavity from the wound. Three sutures were inserted into the parietal peritoneum of the edge of the wound nearest the median line, and this united to the cæcum, thus more effectually aiding in the isolation of the abscess cavity. The

tumor itself, lying just below and to the right of the cæcum, was then incised and bubbles of H_2S gas and fæculent pus escaped in large quantities. The abscess cavity was carefully irrigated with warm sterilized water and packed with iodoform gauze. The condition of the appendix itself could not be ascertained. The wound was dressed every second and later every fourth day, and healed from the bottom by granulation. The temperature only once rose to 101°. He was given liquid diet (milk every two hours) and salts p. r. n. He was discharged October 13, 1891, a small amount of pus still discharging from the wound.